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Hall et al.

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(54) **YARN COLOR PLACEMENT SYSTEM**

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112/80.41, 470.01

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See application file for complete search history.

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(56) **References Cited**

U.S. PATENT DOCUMENTS

2,811,244 A 10/1957 MacCaffray, Jr.
2,818,037 A 12/1957 McNutt

(Continued)

(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
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FOREIGN PATENT DOCUMENTS

EP 1474354 B1 7/2010
EP 2 100 994 B1 6/2011

(Continued)

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OTHER PUBLICATIONS

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(57) **ABSTRACT**

A yarn color placement system for a tufting machine including a series of different color yarns being fed to the needles of the tufting machine by yarn feed mechanisms. A backing material is fed through the tufting machine at an increased stitch rate as the needles are shifted according to the programmed pattern steps. A series of level cut loop loopers or hooks engage and pick loops of yarns from the needles, with the clips of the level cut loop loopers or hooks being selectively actuated to form cut pile tufts, while the remaining loops of yarns can be back-robbed so as to be hidden from view in the finished patterned tufted article.

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